

NB100S

100 Watts Output Power

SINGLE AND DUAL OUTPUTS



How to Order:

NB 100 D I / 5 / 15 - A - D

Series	Output Voltages:	Options:
Total Output Power	One number is for single out or two numbers for dual output. Maximum current as stated in selection chart.	A- pins out side of unit B- pins out bottom of unit C- pins out top of unit D- through hole inserts (STD threaded) I - M2.5 inserts
Single (S), Dual (D) Output		
Industrial (I) or Military (M)		

Model Numbering Example:

To order a 100 watt, 15 V out (single output), industrial grade power supply with pins out the side, the model number would be: NB100SI/15-A. Military grade would be NB100SM/15-A. To order a 100 watt, dual output, 15 V and 15 V, industrial grade power supply with pins out the top, the model number would be NB100DI/15/15-C. Dual output, 12 V and 15 V, military grade, would be NB100DM/12/15-C. When ordering a dual output unit, the first output voltage in the model number is located on channel 1, and the second output voltage in the model number is located on channel 2 (see case drawing for details).

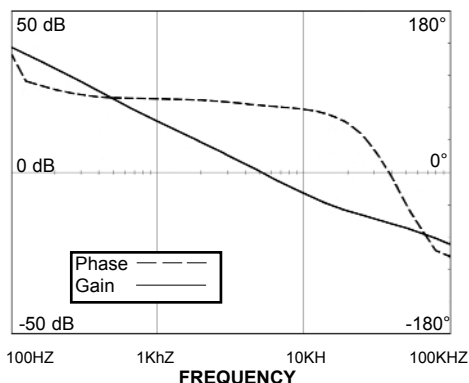
INPUT CHARACTERISTICS

	PER CHANNEL			Units
	Min.	Typ.	Max.	
Input Voltage	14	28	40	Vdc
Brown Out (75% of Full Load) [fig. I]*		12		Vdc
No Load Power Dissipation		2	4	Watt
Inrush Charge [fig. VII]*			2	mc
Reflective Ripple Current [fig. VIII]*		15		%
Logic Disable Current (Sink)		100	150	μA
Logic Disable Power In		1.2	2.5	W
Input Ripple Rejection (120 Hz)		55		dB
Input Ripple Rejection (800 Hz)		45		dB
Efficiency (FL) [fig. II & III]*	73	78-84		%
3.3 Vdc Output (FL)	67	74		%
2 Vdc Output (FL)	62	67		%

EMI: Units conform to MIL-STD-461D (on the input leads) with companion filter

Input Transient: Units conform to MIL-STD-704D for transients up to 50V for 0.1 second

STABILITY



FEATURES

- .38 Inch Profile
- Synchronization
- Remote Turn On (TTL)
- Output Voltage Trim Pin
- Over Temperature Protection
- Output Overvoltage/Overcurrent Protection
- Built-In Test (Output Power Good; Main Output)
- 100% Environmental Screening (Military Version)
- Outputs Isolated Allowing Any Combination of Output Voltages

SELECTION CHART

Output Voltage and Output Current

Nominal Output Voltage	Single Output	Dual
	Output Current (Amps)	Per Channel Current (Amps)
2	20	10
3.3	20	10
5	20	10
5.2	19.2	9.6
12	8.3	4.2
15	6.7	3.3
24	4.2	2.1
28	3.6	1.8

OUTPUT CHARACTERISTICS

	PER CHANNEL			
	Min.	Typ.	Max.	Units
Set Point Accuracy			1 †	% V _{out}
Load Regulation		5	0.2% ¹	mV
Line Regulation		5	0.2% ¹	mV
Ripple P-P (10 MHz) (2V-24) [fig. IV]*		45	150	mV
Ripple P-P (10 MHz) (28V)[fig. IV]*		.2%	1%	% V _{out}
Trim Range	100		110	% V _{out}
Remote Sense Compensation		0.5		Vdc
Overvoltage Protection (2V, 3.3V)		140		% V _{out}
Overvoltage Protection (5V-28)		125		% V _{out}
Current Sharing		±10		% I _{out}
Transient Response (Vout 1%) Time/Overshoot [fig. V & VI]*				
20-80% Load		350/300		μS/mV
Low Line - High Line		300/350		μS/mV
50-100% Load		250/300		μS/mV
Temperature Drift		0.01	0.05	%/°C
Long Term Drift		0.01	0.02	%/1KHrs
Current Limit	105	125	150	% I _{out}
Short Circuit Current	25		75	% I _{out}
Turn On Time [fig. XI]*		1.5		mS
Logic Turn On Time [fig. IX]*		1.5		mS

† 1% or 50mV, whichever is greater

* figures on page 21 represents per channel

¹ .2% or 25mv whichever is greater

All specifications are typical @+25°C with nominal input voltage under full output load conditions, unless otherwise noted. Specifications subject to change without notice.

HIGH DENSITY DC TO DC CONVERTERS

Industrial & Military Grades

TEMPERATURE CHARACTERISTICS

	Min.	Typ.	Max.	Units
Operating				
Industrial Grade	-40		+71	°C
Military Grade	-55		+100	°C
Storage (Ambient)	-55		+125	°C
Over Temperature Shutdown				
Industrial Grade		+75		°C
Military Grade		+105		°C
Thermal Resistance Case - Ambient		12		°C/W

MILITARY GRADE - Environmental Screening

All "Mil" Grade units receive the following:

Stabilization Bake: +125°C for 24 hours per Mil-Std-883, M1108, Condition B

Temperature Cycling: 10 cycles at -55°C to +125°C (transition period 36 minutes) per Mil-Std-883, M1010, Condition B

Burn-in: 160 hours at +85°C min.

Final Testing

See "Guide to Operation" for full details

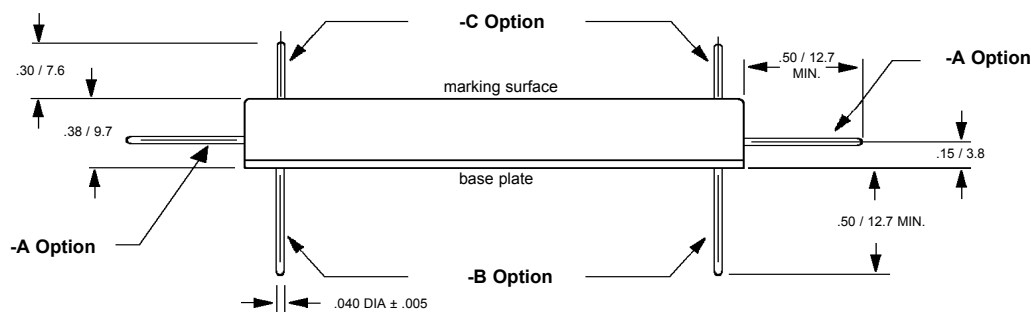
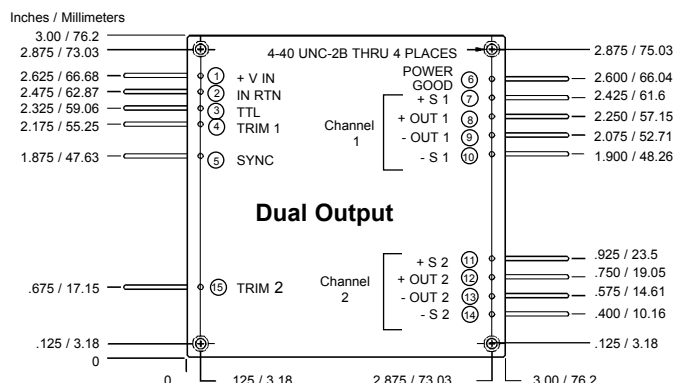
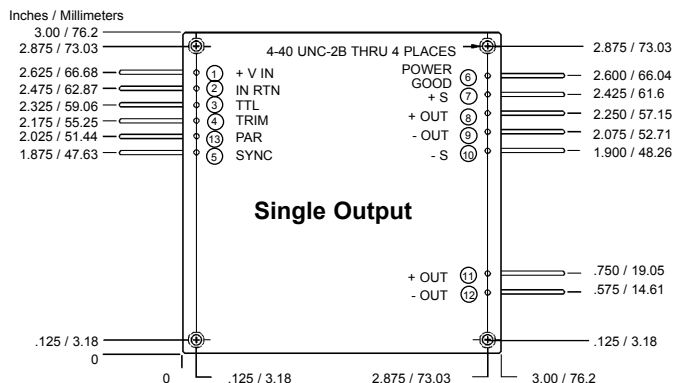
ISOLATION CHARACTERISTICS

	Min.	Typ.	Units
Isolation:			
Input to Output	500		Vdc
Output to Base	250		Vdc
Input to Base	250		Vdc
Input to Output Capacitance		0.044	µf
Insulation Resistance (@50 Vdc)	50		MOhm

MECHANICAL CHARACTERISTICS

Weight	6.4	oz.
	180	grams
Size	3.0 x 3.0 x 0.38	inch
	76.2 x 76.2 x 9.7	mm
Volume	3.42	inch ³
	56.0	cm ³
Material	Pin	Brass (Solder Plating)
	Baseplate	Aluminum 5052-H32
	Case	28 Gauge Steel (cold rolled)
Finish		Nickel Plating
Mounting	Standard	4-40 inserts provided in baseplate
	I Option	M2.5 metric inserts (4 places)
	D Option	0.115 DIA thru holes (4 places)

CASE DRAWINGS



Tolerances: inches - x.xx = ±0.03 mm - x.x = ±0.8
x.xxx = ±0.015 x.xx = ±0.40

All specifications are typical @+25°C with nominal input voltage under full output load conditions, unless otherwise noted. Specifications subject to change without notice.